



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,267	12/15/2000	Ji-Wook Youn	P66190US0	8121

7590

09/03/2004

JACOBSON, PRICE, HOLMAN & STERN  
PROFESSIONAL LIMITED LIABILITY COMPANY  
400 Seventh Street, N.W.  
Washington, DC 20004

EXAMINER
----------

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
----------	--------------

2633

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/736,267

Applicant(s)

YOUN ET AL.

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 12 March 2004 have been fully considered but they are not persuasive. Alexander has been shown as measuring individual channel powers as pointed out as lacking in the Yang reference. Furthermore, since the Alexander monitor can be staged in front of the sub-amplifier (50 of Figure 2) of Yang the channels can indeed be measured outside of the flattened gain band of the optical amplifier. Therefore applicant's arguments have no merit regarding the combination of Yang and Alexander. Finally, the applicant's arguments regarding adding one more extra wavelength selecting device has no relevance to the claimed invention.
2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2633

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. US 6,215,584 B1 (Yang) in view of Alexander et al. US 5,986,782 (Alexander).

Re claim (s) 1,

Yang disclosed (figure 2)

An optical performance monitoring apparatus for use in a WDM (Wavelength Division Multiplexing) optical communication system (e.g., col./line: 1/1-5), the apparatus comprising: a first optical distributing means for distributing a WDM optical signal branched from an optical transmission line (fiber shown); a plurality of first optical detecting means (30, 70, 110), a second optical detecting means for detecting total power (40) of the optical signal distributed from the first optical distributing means (10); a plurality of second optical distributing means (60, 100), each for transmitting the optical signal outputted from the first optical distributing means (10) to one of the first detecting means (30) and the second optical detecting means (70); and a signal processing means for measuring the power for each channel of the WDM optical signal (40), a total ASE (Amplified Spontaneous Emission) noise power, and an optical signal-to-noise ratio for each channel from the digital value from the signal converting means. (e.g., col./line: 8/65-67, 9/1-10, 9/60-65).

Yang does not disclose a signal converting means for converting an analog value of the power applied from the selecting means to a digital value. Yang does however, disclosed the use of a microprocessor (e.g., col./line: 11/30-35) for sensing and storing of data (e.g.,

Art Unit: 2633

col./line: 9/20-25). It would have been obvious to one of ordinary skill in the art at the time of invention to know that the Yang optical signals are processed in digital since microprocessors must necessarily operate on digital data.

Yang does not disclose wherein each monitoring apparatus (40) for detecting power of the predetermined wavelength optical signal for a corresponding one of channels selected by the plurality of the wavelength selecting means;

Alexander disclosed a monitoring apparatus (Figure 2 #50) for detecting the powers of each wavelength via a wavelength selection means (Figure 2 #54, col./line: 4/30-40). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Alexander monitor and wavelength selection device in the Yang apparatus since correcting the Yang gain tilt is more effectively accomplished by monitoring the individual wavelengths as in Alexander.

Re claim (s) 2, Yang disclosed

wherein the signal processing means includes a memory storing ASE noise profile for each wavelength of the optical amplifier depending on input power level and an upper limit the total ASE noise power of the optical amplifier. (e.g., col./line: 9/15-30)

5. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. US 6,215,584 B1 (Yang) and Alexander et al. US 5,986,782 (Alexander) as applied to claims 1

Art Unit: 2633

and 2 above, and in further view of Chan et al. US 6,009,220 (Chan).

Re claim (s) 3

The modified invention of Yang/Alexander does not disclose wherein the plurality of the wavelength selecting means are optical fiber Bragg gratings. Chan disclosed (figure 1a) optical fiber gratings (22, 24, 26, 28) used in monitoring a WDM signal (figure 1a). It would have been obvious to one of ordinary skill in the art at the time of invention to use optical fiber gratings to separate wavelengths in the Yang invention since Bragg gratings are effective for reflecting one or more wavelengths (e.g., 2/25-40).

Re claim (s) 4 and 5, Chan disclosed wherein the second optical distributing means is an 1x2 optical coupler/ circulator (18) (Chan e.g., col./line: 3/30-60).

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2633


CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600